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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,594	09/08/2000	Shinya Matsumoto	CS-20-000908	2609
22712	7590	01/24/2005	EXAMINER	
PAUL A. GUSS PAUL A. GUSS ATTORNEY AT LAW 775 S 23RD ST FIRST FLOOR SUITE 2 ARLINGTON, VA 22202			CHUNG, DANIEL J	
			ART UNIT	PAPER NUMBER
			2672	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/658,594		MATSUMOTO ET AL.	
	Examiner		Art Unit	
	Daniel J Chung		2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-7,11-13 and 17-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-7,11-13 and 17-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1,5-7,11-13 and 17-63 are presented for examination. Claims 48-63 have been added by the amendment filed on 9-17-2004. This office action is in response to the amendment filed on 9-17-2004.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,5-7,11-13 and 17-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebersole et al (6,500,008).

Regarding claim 1, Ebersole et al discloses that the claimed feature of a method of rendering an image, comprising the step of: mapping a plurality semitransparent textures ["texture map"; 11, i.e. fire texture, smoke texture, water texture] respectively onto of a plurality of semitransparent or transparent polygons [i.e. "particles"; 10,22] which make up an object [i.e. flame, smoke, water stream] [A texture map representing a puff of smoke is applied to each particle, which consists of two triangles, and transparency of the texture mapped particle masks the appearance of polygon edges" See col 7 line 19-22] (Also see col 7 line 1-24, col 7 line 46-55, col 9 line 16-23, col 17

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line 28, col 18 line 1); moving plurality of semitransparent textures [i.e. "water texture"] simulative in an arbitrary direction ["a direction of flow"] so that semitransparent textures become associated respectively with different polygons [i.e. 'different particles' in particle system] from among plurality of semitransparent or transparent polygons [i.e. "rings of particles"; 22] which make up object ["moving texture map in the direction of extinguishing agent flow to simulate extinguishing agent flow" See col 18 line 2-3]; and remapping ['mapping moved texture map in the direction of flow'] the plurality of semitransparent textures, which have been moved ["moving texture map in the direction of flow"], respectively onto different polygons [i.e. any different rings 22], wherein in moving step, at least one of plurality of semitransparent textures is moved in a different direction [i.e. the direction of flow] from another one of plurality of textures. (See Fig 4, col 9 line 16-23, col 18 line 2-3)

Ebersole et al does not specifically disclose a plurality of textures in the same object in particle system. However, having multiple texture images [i.e. different shape/color/opacity texture map] to represent the object within particle system, is well known in an analogous art, in order to simulate the object with realistic appearance. Therefore, it would have been obvious one skilled in the art to include multiple numbers of different texture maps [different shape/color/opacity of water and smoke texture] into the teaching of Ebersole et al, thereby representing the objects [flame, steam, etc] with realism.

Regarding claim 5, Ebersole et al discloses that arranging plurality of semitransparent or transparent polygons in one or more multiple layers [i.e. layered model shown in Fig 4]. (See Fig 4, col 9 line 16-23, col 18 line 2-3)

Regarding claim 6, claim 6 is similar in scope to the claim 1, and thus the rejection to claim 1 hereinabove is also applicable to claim 6.

In addition, Ebersole et al further discloses that storing a plurality of texture images in a texture rendering area of an image memory; storing a plurality of polygons in a display rendering area of image memory based on at least texture image. (See col 11 line 66-col 12 line 18)

Regarding claims 7,11-13 and 17-20, claims 7,11-13 and 17-20 are similar in scope to the combination of claims 1 and 5-6, and thus the rejections to claims 1 and 5-6 hereinabove are also applicable to claims 7,11-13 and 17-20.

Regarding claim 21, Ebersole et al discloses that at least one of plurality of semitransparent textures is moved in more than one direction [i.e. "direction of water flow"]. (See col 9 line 17-18, col 18 line 2-3)

Regarding claim 22, claim 22 is similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claim 22.

Regarding claim 23, claim 23 is similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claim 23.

Regarding claim 24, claim 24 is similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claim 24.

Regarding claim 25, claim 25 is similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claim 25.

Regarding claim 26, claim 26 is similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claim 26.

Regarding claim 27, claim 27 is similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claim 27.

Regarding claim 28, claim 28 is similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claim 28.

Regarding claims 29-47, claims 29-47 are similar in scope (broader than claims hereinabove) to the combination of claims 1 and 5-6, and thus the rejections to claims 1 and 5-6 hereinabove are also applicable to claims 29-47.

Regarding claim 48, Ebersole et al discloses that moving step, semitransparent textures become associated respectively with different adjacent polygons, in a circulating manner, from among plurality of semitransparent or transparent polygons which make up object. (See col 9 line 17-18, col 18 line 2-3) [i.e. "moving texture map in the direction of extinguishing agent flow...", where different adjacent polygons must be utilized in order to represent the direction of extinguishing agent flow]

Regarding claim 49, claim 49 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 49.

Regarding claim 50, claim 50 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 50.

Regarding claim 51, claim 51 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 51.

Regarding claim 52, claim 52 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 52.

Regarding claim 53, claim 53 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 53.

Regarding claim 54, claim 54 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 54.

Regarding claim 55, claim 55 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 55.

Regarding claim 56, claim 56 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 56.

Regarding claim 57, claim 57 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 57.

Regarding claim 58, claim 58 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 58.

Regarding claim 59, claim 59 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 59.

Regarding claim 60, claim 60 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 60.

Regarding claim 61, claim 61 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 61.

Regarding claim 62, claim 62 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 62.

Regarding claim 63, claim 63 is similar in scope to the claim 48, and thus the rejection to claim 48 hereinabove is also applicable to claim 63.

Claims 64-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ebersole et al (6,500,008) in view of DiFrancesco. (5,194,969)

Regarding claim 64, Ebersole et al discloses that the claimed feature of a method of rendering an image, comprising the steps of: drawing at least one first semitransparent object [i.e. water] having a three dimensional shape [i.e. wire frame mesh 24], by drawing semitransparent textures [i.e. "texture map"] corresponding to first semitransparent object on each of polygons [i.e. "triangles"] making up first semitransparent object; moving the semitransparent textures [i.e. "water texture"] arbitrarily on first and second semitransparent objects; and repeating the step of moving the semitransparent textures. (See Fig 4, col 9 line 16-23, col 18 line 2-3)

Ebersole et al does not specifically disclose that second object is superimposed on first semitransparent object. However, such limitation is shown in the teaching of DiFrancesco. [i.e. second object (250') is superimposed on first object (250), where texture image (240,240') are mapped on each object] (See Fig 19, col 11 line 18-42) It would have been obvious to one skilled in the art to incorporate the teaching of DiFrancesco into the teaching of Ebersole et al, in order to simulate the object with variety effects, as such improvement is also advantageously desirable in the teaching of Ebersole et al for representing the objects with realism.

Regarding claim 65, claim 65 is similar in scope to the claim 64, and thus the rejection to claim 64 hereinabove is also applicable to claim 65.

Regarding claim 66, claim 66 is similar in scope to the claim 64, and thus the rejection to claim 64 hereinabove is also applicable to claim 66.

Response to Arguments/Amendments

Applicant's arguments with respect to claims 1,5-7,11-13 and 17-47 have been considered but are moot in view of the new ground(s) of rejection. As to the applicant's argument that the cited reference does not disclose 'mapping respective texture images onto the plurality of polygons' and 'moving texture images within different polygons' (See p.28 line 1-7 in Remarks), Ebersole et al clearly show that "a texture map [11] representing a puff of smoke is applied to each particle [10]" (See Fig 2A, col 7 line 19-

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20) and "moving texture map in the direction of extinguishing agent flow " in particle system. (See Fig 4A, col 18 line 2-3) See the rejection hereinabove

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Chung whose telephone number is (703) 306-3419. He can normally be reached Monday-Thursday and alternate Fridays from 7:30am- 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael, Razavi, can be reached at (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

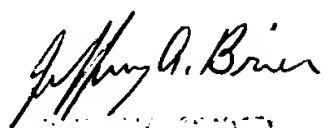
or faxed to:

(703) 872-9306 (Central fax)

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


JEFFREY BRIER
PRIMARY EXAMINER

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djc
January 20, 2005